

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the application of:

Carol Rines et al

Serial No.

(Divisional of USSN 08/696,294,
filed August 19, 1996, in turn a
continuation of USSN 08/380,242,
filed January 30, 1995; in turn
a continuation of USSN 873,970,
filed April 24, 1992, in turn a continuation
of USSN 584,134, filed September 18, 1990)

Group Art: 2754

Filed: Herewith

Examiner: Davis, D

For. METHOD OF AND APPARATUS FOR EXPANDING FUNCTIONALITY OF
VEHICLE CASSETTE TAPE-PLAYER DECKS TO PERMIT DICTATION OR
OTHER RECORDING AND AUTOMATIC REMOTE STATION RELAYING
OF THE SAME

The Honorable Commissioner of Patents
and Trademarks
Washington, DC 20231

Dear Sir,

Please amend this application as follows

Page 1, under the title, insert the following paragraph: This application is a divisional
application of application Serial No 696,294, filed August 19, 1996. (in turn a continuation of
Serial No. 380,242, filed January 30, 1995, in turn a continuation of USSN 873,970,
filed April 24, 1992, which was a continuation of Serial No. 584,124, filed September 19, 1980-now
abandoned) being filed in response to a requirement for restriction.

Please cancel claims of Group I (2-10, 14, 15, 18, 20, 24 and 26-46) which are
retained in said application Serial No 696,294.

Please renumber claims 19, 23, 25, 47-54 respectively as 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, and 11.

Any costs, including for extensions of time required herein, petition for which is hereby
made, are to be charged to Deposit Account No. 18-1425 of the undersigned attorney.

Respectfully submitted,

RINES AND RINES

By: 

Robert H. Rines
Registration No. 15,932

Date: March 13, 1998
RINES AND RINES
81 North State Street
Concord, NH 03301
Tel: (603) 228-0121

201

A

RINES AND RINES

ATTORNEYS AT LAW

81 NORTH STATE STREET
CONCORD, NEW HAMPSHIRE 03301

TEL.: (603) 228-0121

CABLE: SENIR

TELEX 953076 RINES NH COND

FAX: (603) 228-0210

DAVID RINES (884 1978)

ROBERT H RINES

OF COUNSEL

NANCY RICHARDS-STOWER

ROBERT SHAW

CONFERENCE SUITES
65 EAST INDIA ROW
BOSTON, MASSACHUSETTS 02110
TEL (617) 523 6304
FAX (617) 723 6988

CARNEGIE PLAZA (706)
NEW YORK, NEW YORK 10019

TYCHAT COTTAGE
DRUMNADROCHIT
INVERNESS-SHIRE
SCOTLAND, U K.

March 13, 1998

OF COUNSEL
NELSON H. SHAPIRO
1100 WILSON BOULEVARD
SUITE 1701
ARLINGTON, VIRGINIA 22209
TEL (703) 276-0700
TELEX. 440166
FAX: (703) 528-2457

JOHN R. ALLSOP
10 LONDON END
BEACONSFIELD
BUCKS, HP92JH, U.K.
TEL : (0494) 680212
TELEX: 837923
FAX: 494 680201
EUROPEAN PATENT ATTORNEY

03/13/98
16582 U.S. PTO
HONORABLE COMMISSIONER OF
PATENTS AND TRADEMARKS
Box. FWC
Washington, DC 20231

Sir:

This is a request for filing a divisional application under the divisional filing procedure of 37 C.F.R. 1.60 of application Serial No. 08/696,294, filed August 19, 1996, in turn a continuation of Serial No. 380,242, filed January 30, 1995, in turn a continuation of Serial No. 873,970, filed April 24, 1992, in turn a continuation of Serial No. 584,134, filed September 18, 1990-now abandoned, by Carol Rines, et al, for *METHOD OF AND APPARATUS FOR EXPANDING FUNCTIONALITY OF VEHICLE CASSETTE TAPE-PLAYER DECKS TO PERMIT DICTATION OR OTHER RECORDING AND AUTOMATIC REMOTE STATION RELAYING OF THE SAME*, assigned to Art Unit 2754, Examiner: D. Davis.

The title and applicants of the pending application are the same as originally filed and have not been amended.

The current correspondence address of the applicant is 81 North State Street, Concord, NH 03301.

The filing fee is calculated below:

| | |
|--|----------|
| Base filing fee..... | \$395.00 |
| Number of independent claims--less 3. | -0- |
| Number of claims in excess of 20 ... | -0-- |
| | \$395 00 |

[illegible]RHR/ipo
Enclosures

Cordially,

By: Robert H. Hines

Reg Nos. 15,932

16,118

[illegible]

Wet. Lins

Applicant(s) or Patentee: CAROL MARY RINES } Attorney's
Serial or Patent No.: ROBERT H. RINES } Docket No.:
JUSTICE C. RINES
Filed or Issued: HEREWITH
For: METHOD OF AND APPARATUS FOR EXPANDING FUNCTIONALITY OF VEHICLE CASSETTE
TAPE-PLAYER DECK TO PERMIT DICTATION OR OTHER RECORDING AND
AUTOMATIC REMOTE STATION RELAYING OF SAME
VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY
STATUS (37 CFR 1.9(f) and 1.27(b)) - INDEPENDENT INVENTOR

As a below named inventor, I hereby declare that I qualify as an independent inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code, to the Patent and Trademark Office with regard to the invention entitled METHOD OF AND APPARATUS FOR EXPANDING FUNCTIONALITY OF VEHICLE CASSETTE TAPE-PLAYER DECKS, et al. described in

☒ the specification filed herewith
☐ application serial no. _____, filed _____
☐ patent no. _____, issued _____

I have not assigned, granted, conveyed or licensed and am under no obligation under contract or law to assign, grant, convey or license, any rights in the invention to any person who could not be classified as an independent inventor under 37 CFR 1.9(c) if that person had made the invention, or to any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

☒ no such person, concern, or organization
☐ persons, concerns or organizations listed below*

*NOTE: Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

FULL NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

FULL NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

FULL NAME _____
ADDRESS _____
☐ INDIVIDUAL ☐ SMALL BUSINESS CONCERN ☐ NONPROFIT ORGANIZATION

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

CAROL MARY RINES ROBERT H. RINES JUSTICE C. RINES
NAME OF INVENTOR NAME OF INVENTOR NAME OF INVENTOR

Carol Mary Rines Robert H. Rines Justice C. Rines
Signature of Inventor Signature of Inventor Signature of Inventor

SEPT. 15 '90 SEPT. 15 '90 SEPT. 15 '90
Date Date Date

METHOD OF AND APPARATUS FOR
EXPANDING FUNCTIONALITY OF VEHICLE CASSETTE TAPE-PLAYER
DECKS TO PERMIT DICTATION OR OTHER RECORDING
AND AUTOMATIC REMOTE STATION RELAYING OF SAME

The present invention relates to vehicle tape decks and the like (the terms "tape", "tape deck" and "cassette" being generically used herein to embrace not only cartridges of magnetic storage strips or tapes but discs and other well-known recording media, as well), being more particularly directed to the expansion of the functionality of the same beyond the mere playing or reproducing of pre-recorded material to permit, also, dictation or other message recording by the vehicle operator (or passengers) and, where desired, automatic remote station relaying of the same from the vehicle (and also the vehicle AM/FM radio broadcast reception, if desired), as by cellular radio telephone.

Background

While audio mono, multi-channel and stereo tape recorders (analog and digital) with recording and playback functions have been employed for decades in many settings, including fixed and portable versions, the conventional tape

deck systems available for automobiles have been restricted to playback functions for the listening entertainment of the operator and other passengers. This operator-passive listening mode has extended, also, to FM and AM radio reception, though operator-active speaking from the vehicle has, within the past decade, become customary through the use of a separate cellular radio telephone transmitter-receiver also provided in the vehicle, but at a different location than the tape deck-radio receiver.

There are, however, serious restraints upon operator-active functions during vehicle movement that do not exist in the usual fixed or portable tape recorder settings, in view of the necessity that the operator give substantially total attention to driving and minimal or insignificant operational attention to the tape deck. It is to the problem of enabling such minimal diversion of the operator's attention while expanding the functionality of the tape deck to permit the operator to dictate and record and/or automatically transmit the dictation via the vehicle cellular radio, either in real time or by playback, that the present invention is primarily directed. Adding such facility to the vehicle-installed tape deck with safe and minimal attention diversion from the driving function

obviates the current need for separate tape recorders to be carried by the operator or vehicle, ^{It also} ~~and~~ achieves the very desirable result of (1) enabling operator-active dictation for local storage while driving, and subsequent playback; (2) for real time automatic relay to remote stations, such as the operator or another's office, home, or message center or the like; and/or (3) for subsequent playback and automatic transmission to remote stations at desired times. With the incorporation of the features of the invention, furthermore, it also fortuitously becomes possible to enable recording of the AM-FM radio broadcast reception at the vehicle, if desired, and either real-time transmittal of the same to a remote location via the vehicle cellular radio telephone and/or the subsequent transmission by playback of the broadcast recorded by the tape deck.

A
✓

Object of Invention

An object of the invention, accordingly, is to provide a new and improved method of and apparatus for expanding the functionality of current-day vehicle tape deck systems to permit safe and minimal operator-attention operator dictation or other message functions, as well; and with the further feature, where desired, of enabling automatic

B

real-time relaying of the same, as over cellular radio telephone, to remote stations and/or for subsequent playback and automatic transmission to remote stations at desired times.

A further object is to enable, where desired, recording of the vehicle AM/FM radio broadcast reception and its transmission, where appropriate, to remote stations via the cellular radio telephone system.

Other and further objects are explained hereinafter and are more particularly delineated in the appended claims.

Summary

In summary, however, from one of its important aspects, the invention embraces, for integration with a vehicle passive audio-tape cassette deck playback system having power, play, rewind and forward controls operable, in a play mode, to reproduce signals stored on a pre-recorded tape in audio form in a vehicle loudspeaker by scanning the tape forwardly ^{by} past a playback head connected to playback amplifiers driving the loudspeaker, apparatus for rendering the system capable of active dictation recording use on a tape and simultaneous transmission to a remote location, or later transmission upon rewind and playing of the recorded

6646-026666
tape, via a cellular radio telephone transmitter system also carried by the vehicle, said apparatus having, in combination, auxiliary apparatus comprising a microphone, audio amplifying means and a recording head cooperative with the tape for enabling the driver, upon actuation of a recording dictation mode, to dictate in the vehicle into the microphone and record such on the tape; programmable control means cooperative with the said auxiliary apparatus and with the modulator of said cellular radio telephone transmitter system for switching said audio amplifying means, upon said actuation of the recording dictation mode, to energize said recording head to record the dictation on said tape and, after operation of said rewind control, to playback the same as recorded on the tape through one or both of two paths: one, through said playback amplifiers for driver listening through said vehicle loudspeaker, and secondly, for directly modulating the cellular radio transmitter modulator to transmit to a remote location; said programmable control means further having means, operable upon actuation of said recording dictation mode, for connecting said audio-amplifying means to said modulator, to transmit the dictation via the cellular radio telephone transmitter in real time during said dictation, selectively with or without

simultaneous energizing of said recording head to record the dictation on said tape. Storage and/or cellular transmission of the vehicle radio broadcast reception is also feasible when required. Best mode and preferred designs for operation are later detailed.

Drawings

The invention will now be described with reference to the accompanying drawings, Fig. 1 of which is a combined block and schematic circuit diagram of preferred apparatus for practicing the invention;

Fig. 2 is a flow diagram of the operation; and

Fig. 3 is a partial block diagram of a modification.

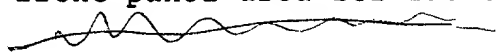
Description

Referring to Fig. 1, a conventional automobile vehicle tape playback deck (mono, multi-channel and/or stereo) is shown at 1, having a switch control panel 3 displaying conventional power (P), play (PL), rewind (REW) and forward (FOR) buttons operating, in well-known and conventional manner, the motor drive (M) for the magnetic tape cartridge or cassette playback system D, with a cartridge or cassette access slot (not shown) for the operator to insert or remove

A

a pre-recorded tape cassette. Similar comments apply for disc cassette recording and similar media systems all generally described as "cassette" as before stated. Typical vehicle cassette playback decks of this character, combined with an AM/FM car radio receiver, are, for example, the AM/FM Radio-Stereo Tape Deck Blaupunkt Autoradio SQR34 described in their 1984 catalog, or the Becker "Auto Radio" and cassette player described in the 500 SEL Mercedes Benz Owner's Manual 1984, or other well-known types. Following insertion of a recorded tape cassette and turn-on of the power at P, usually in common unit with the conventional AM/FM vehicle radio receiver RR, operation of the play button PL operates the motor drive M to cause scanning of the tape ^{by} ~~past~~ the then operational playback head or sensor PB-H for generating electrical signals (analog or digital later converted to analog) amplified in playback amplifiers PA and transduced into audio sound at the vehicle local loudspeaker(s) L for passive listening by the vehicle operator and passengers, all as is well-known.

Also shown in Fig. 1 is the separate, conventional vehicle cellular radio telephone transmitter-receiver C, at the disposal of the operator and passengers at a different location of the front panel area for radio telephone



communication with a remote station RS totally independently of the vehicle playback deck and AM/FM radio receiver. A typical car cellular radio is the Alpine Model 9511 Transceiver of Alpine Electronics of America, Inc.

In accordance with the present invention, as before stated, not only is the playback deck 1 extended in functionality to permit operator and/or passenger recording of dictation (thoughts, appointments, names, instructions, observations, reports, letters, tasks, or other messages, data or materials), but to enable automatic combination with the now totally separately functioning cellular radio telephone system C to permit transmission of the same to a remote location(s), either in real time or by subsequent playback of recording of the same at the vehicle tape deck. Such, as previously stated, can also be extended to the "messages" in the form of the received programs on the vehicle AM/FM radio receiver.

Thus, in Fig. 1, there is shown added to the playback "tape" deck 1 auxiliary apparatus, also interconnected with the cellular telephone C, which may now be physically located (or at least dictation or other message controls for transmission thereover) as part of or in close proximity to those of the radio-tape deck unit. Such auxiliary apparatus

for power - p.c.

includes a dictation microphone MIC with its amplifier(s) RA and recording head RH, and control buttons, just as readily and safely accessible to the operator as the playback tape deck controls, for automatic real-time modulation by the dictated message (TX), such combined real-time modulation and recording on the tape deck (REC-TX), or just modulation of the cellular telephone radio transmission (PL-TX) without recording at the vehicle -- such, however, all being recordable for playback at the remote station cellular telephone receiver RS at A, and/or direct listening in real-time at L'.

In actual practice, at least some of these functional controls are susceptible of microprocessor control, schematically indicated at MC, and of conventional type (as, for example, in the PROM-equipped Intell microprocessor type 8051) though, for illustrative and explanatory purposes, they are shown implemented by switches and gang-control lines in Fig. 1 which, in practice, can be software implemented as is well known.

Referring to the switching sequence and operation and program flow chart of Fig. 2, and considering first the added functionality of the operator dictation and local recording when driving (Option O₁ in Fig. 2), in fashion

similar to the operator's current-day pressing of the play mode (PL) of the tape deck 1, the operator may depress PL and the added record button REC together (Step I in Fig. 2), as in the conventional fashion in tape recorders (illustrated by dotted line gang connection) to initiate the added dictation function. The circuitry for effecting this by rendering operational the microphone MIC-recording amplifiers RA-recording head RH-and tape motor drive M, may, for example, be identical to that of well-known conventional tape recorders, including the type of circuits of the Minisette-15 and 20 cassette recorders described in respective catalogs 14-1027 and 14-1055A of Tandy Corporation, 1985 and 1988, respectively, or other well known recorder systems of this character. This will cause the recording amplifiers RA, Fig. 1, to energize the recording head RH via switch S, and record the dictation (or other "message") on a blank tape D, as shown by Steps II, III and IV in Fig. 2, so-labelled. Particularly for minimal driver concern, a voice or sound-activated on-off switch 9 is preferably employed (as, for example, of the said Minisettes 15 and 20 recorders) to activate recording only when dictation commences and during voice activity.

Following recording, with the same minimal diversion

from driving attention as in current radio and tape deck operation in cars, particularly in view of the incorporation of controls in the single deck region, should the operator desire playback of the recording (Option O₂ in Fig. 2), conventional rewind step V and playback step VI are effected (REW and PL controls in Fig. 1), enabling listening to the recording at the local vehicle loudspeaker(s) L, Figs. 1 and 2.

As before discussed, should the operator desire the dictation or other message to be transmitted automatically to a remote station to which the cellular radio telephone is dialed in conventional fashion, including by special code button, this may, in accordance with the features of the invention, be achieved ^{first} ~~either~~ in real time (with or without recording at the vehicle tape deck), ^{It may} ~~or~~ be done later either when a certain number of dictated inputs have been effected or after a certain desired monitored time has elapsed, by rewind and playback of the recorded tape with automatic modulation of the cellular telephone transmitter circuitry, ^{This is} as distinguished from modulation by voice spoken into the cellular telephone mouthpiece as in voice telephone communication, ^{all effected} ~~all~~ automatic without the driver being involved other than actuating the desired function button

control.

Considering, first, Option O_3 of Fig. 2, if it is desired to transmit the dictation in real time to a remote location on station RS while recording the same in the tape deck 1, as for transmitting information/data back to a person's office or secretary for follow-up, with a record kept on the vehicle tape, after ordering election of the before-discussed Option O_1 , the added function control button REC-TX is actuated (as under control of MC) opening a CONNECT gate switch $S-C_1$ to enable the microphone amplifier output (RA, Fig. 1) to apply modulation signals to the modulator of the cellular telephone transmitter circuit (M' in Figs. 1 and 2) and thus to transmit the dictation over the air to the remote station(s) RS, where it may be heard at L' and/or stored for later playback at A. In the schematic switch analogy format of Fig. 1, switch $S-C_1$ closes in response to actuation of control button REC-TX (illustrated by dotted gang-line), connecting amplifier(s) RA by line 5 to the input of the modulator M' . This may be direct analog signal modulation (AM or FM), or sampling may be involved and digital format may be transmitted and reconverted to analog voice or other audio content of the dictated or recorded message at the receiver RS, as is

well-known.

Selection of the "NO" path at Option O_1 will avoid recording at the tape deck 1, as where it is desired to transmit the dictation automatically and directly to the remote station(s) via the cellular radio telephone system without recording on the vehicle tape deck (switch S open in Fig. 1).

In the event, however, it is not desired to transmit to the remote station at the time of dictation, namely Option O_4 of Fig. 2, then before-mentioned Option O_2 may be initiated at a desired time to effect previously described rewinding and then playback Steps V and VI, with a selection of Step VII of Option O_4 (button PL-TX, Fig. 1) enabling "CONNECT" switching gate C_2 to feed the output of the playback amplifier(s) directly to modulate the cellular telephone radio transmitter circuit at M' , as before explained. In the circuit of Fig. 1, this is shown effected by the dotted-line gang control of PL-TX closing switch $S-C_2$ to feed the output of playback amplifiers PA to the modulation circuit M' via line 7.

The time selected for the playback transmission of the recorded dictation or other message via the cellular telephone radio line C to the remote station RS may be

arbitrary or automatic, including after a predetermined length of time has been monitored at Step VIII, Fig. 2, or a certain number of messages or inputs has been effected; or on demand.

With the microprocessor control MC and the integration of tape deck and cellular radio telephone systems, the above sets of functions may readily be pre-formatted or pre-programmed for the desired options or modes, thereby making it a simple on/off situation (schematically designated by "MC" setting or control) for the operator, readily changeable as different needs arise -- thus adding to the safety of the vehicle operation and minimum distraction.

As previously discussed, furthermore, the invention readily lends itself, also, to recording and/or remotely transmitting (via the cellular telephone system), where desired, the messages or programs received by the vehicle AM/FM radio receiver, generally currently proximally integrated into the playback deck front panel assembly. Thus, as shown by conventional Option O₅ in Fig. 2, the operator or passenger listens to the programs ("messages") by turning on and tuning in, so that the receiver output amplifiers R-RA drive the vehicle loudspeakers L

(schematically shown as by CONNECT C_3) in normal fashion. Should it be desired (Option O_6) to record the same with the system of the invention (R-REC, Fig. 1), Step IX, an appropriate part of the output of the receiver output amplifiers R-RA is fed via CONNECT gate C_4 to the record amplifiers of the tape deck (Step IV, Fig. 2). If Option O_7 is selected to transmit the received broadcast information to the remote station RS, then Step X is effected, connecting the receiver output amplifiers R-RA at C_5 to the modulator circuit M' of the cellular radio telephone transmitter C.

The invention, through its extending of the functionality of the current playback deck, and with cellular telephone integration, thus provides for greatly increased and facile information communication and storage, most desirable for vehicle operators who wish to record and/or transmit, real time thoughts and observations without impairing vehicle operation -- inspectors of traffic, advertising, signs, buildings, road, etc.; writers, executives, doctors, lawyers, engineers, other professionals -- virtually everyone who wishes to capture thoughts or record or impart information, data and observations while driving.

The microphone MIC, in the system integration of the

invention, instead of being part of the add-on to the tape deck, may be the microphone of the cellular radio headset or a remote microphone MIC therefor, Fig. 3. Again, voice switch control 9 is preferred to minimize operator or driver attention and functions, such as the voice actuated controls described in said Minisette catalogs or in other well-known recorders of such character. The recording medium D', drive M', etc., may, in such instance, be treated as an add-on to the cellular radio system C, with the amplifier circuit (AMP) that drives the modulator M' serving, also, when required, to energize the recording head RH.

Further to minimize driver distraction or adjustment, the controls shown to the left in Fig. 1 may be incorporated at or within the steering wheel structure; and/or the control switches may be actuated by voice commands, recognized by predesignated voice command words; i.e., the driver-expressed words "RECORD" (to actuate REC and PL); "RECORD AND TRANSMIT", (to actuate REC-TX); etc., or coded words or numbers, now fully implementable by well-known technology.

As above observed, the invention is not limited to magnetic recording strips but is equally applicable with other types of recording media including laser and other

discs and the like; and, while cellular telephone radio links are preferred for incorporation, other radio or radiant energy communication systems may also be employed therewith.

Further modifications will also occur to those skilled in this art and such are considered to fall within the spirit and scope of the invention as defined in the appended claims.

down-spread

- 42-
~~driver's statement~~
 P. A. (2nd Floor)
 B ✓
 B ✓
 ive audio-tape
 ng power, play,
 le, in a play
 on a pre-recorded
 udspeaker by
 playback head
 riving the
 ng the system
 ing use on a tape
 remote location,
 and playing of the
 o telephone
 the vehicle, said
 auxiliary
~~is thereof and~~
 audio amplifying
 tive with the tape
 ation of a
 ate in the vehicle
~~on~~
 ch on the tape;
 tive with the said
 modulator of said
 er system for

tion mode, to dictate
~~(without a personal discussion)~~

switching said audio amplifying means, upon said actuation of the recording dictation mode, to energize said recording head to record the dictation on said tape and, after operation of said rewind control, to playback the same as recorded on the tape through ^{at least one} [one or both] of two paths: one, through said playback amplifiers for driver listening through said vehicle loudspeaker, and secondly, for directly modulating the cellular radio transmitter modulator to transmit to a remote location; said programmable control means further having means, operable upon actuation of said recording dictation mode, for ^{electrically} connecting said audio-amplifying means to said modulator, to transmit the dictation via the cellular radio telephone transmitter in real time during said dictation, selectively with [or without] simultaneous energizing of said recording head to record the dictation on said tape.

2. Apparatus as claimed in claim ²⁷ 1 and in which ~~the~~ ^{the} modulating [of said modulator] by the audio amplifying means connected with the microphone is controlled by voice [on/off] switching.
3. Apparatus as claimed in claim ²⁷ 1 and in which

B
✓

B

B

P.A.
C
C
C

PA

of said address and means
6 ✓

- selected
- there are provided
h said
- not
760
R.A.

PA ✓
B ✓

playback system

1
written
in about
and =

B ✓
D ✓
re B ✓
B =

ect the
driver ^{operated} ~~is not~~

- B ✓
B ✓
B ✓
Refused
BY per
201 Pa
7A

A ✓
✓

B ✓ B
B.

- OK

in almost A

ABSTRACT

Method of and apparatus for expanding the functionality of vehicle cassette tape player decks to permit driver dictation or other recording and automatic remote station relaying of same through integration with cellular radio telephone apparatus and the like.

2025 RELEASE UNDER E.O. 14176

The diagram illustrates a mobile communication system, labeled FIG. 1. It consists of several interconnected components:

- PLAYBACK VEHICLE TAPEDECK (1):** This central unit includes:
 - CONTROLS AM/FM RADIO RECEIVER:** Receives signals from an antenna (RR) and provides output to the R-RA.
 - CONTROL SWITCH PANEL (3):** Features buttons for R-REC, REW, PL, P, REC, FOR, REC TX, PL TX, and TX. It is connected to a MIC and a VOICE SWITCH (9).
 - DRIVE (M):** Receives input from the CONTROL SWITCH PANEL and the TAPE RECORDING MEDIUM.
 - TAPE RECORDING MEDIUM (D):** Connected to the DRIVE and the PLAYBACK (AUDIO) AMPLIFIER(S).
 - PLAYBACK (AUDIO) AMPLIFIER(S):** Outputs to a speaker (L) and is connected to the R H.
 - VOICE SWITCH (9):** Controls the RECORDING (AUDIO) AMPLIFIER(S) and the MODULATOR.
 - RECORDING (AUDIO) AMPLIFIER(S) (RA):** Receives input from the MIC and the VOICE SWITCH, and outputs to the MODULATOR.
 - MODULATOR:** Receives input from the RECORDING (AUDIO) AMPLIFIER(S) and the VOICE SWITCH, and outputs to the CELLULAR RADIO (TELEPHONE) TRANSMITTER.
 - CELLULAR RADIO (TELEPHONE) TRANSMITTER:** Includes a RECEIVER and a TRANSMITTER section. The TRANSMITTER section is connected to an antenna (RS) and the REMOTE LOCATION CELLULAR RADIO RECEIVER.
 - RECEIVER:** Receives signals from the antenna (RS) and the REMOTE LOCATION CELLULAR RADIO RECEIVER.
 - RECORDING (AUDIO) AMPLIFIER(S) (RA):** Receives input from the MIC and the VOICE SWITCH, and outputs to the MODULATOR.
 - MODULATOR:** Receives input from the RECORDING (AUDIO) AMPLIFIER(S) and the VOICE SWITCH, and outputs to the CELLULAR RADIO (TELEPHONE) TRANSMITTER.
 - CELLULAR RADIO (TELEPHONE) TRANSMITTER:** Includes a RECEIVER and a TRANSMITTER section. The TRANSMITTER section is connected to an antenna (RS) and the REMOTE LOCATION CELLULAR RADIO RECEIVER.
 - RECEIVER:** Receives signals from the antenna (RS) and the REMOTE LOCATION CELLULAR RADIO RECEIVER.
- REMOTE LOCATION CELLULAR RADIO RECEIVER:** Receives signals from the CELLULAR RADIO (TELEPHONE) TRANSMITTER and outputs to the AUDIO MESSAGE RECORDER-PLAYBACK.
- AUDIO MESSAGE RECORDER-PLAYBACK:** Receives signals from the REMOTE LOCATION CELLULAR RADIO RECEIVER and outputs to a speaker (L').

The system is designed for a vehicle environment, with components like the MIC and VOICE SWITCH integrated into the vehicle's control system. The REMOTE LOCATION CELLULAR RADIO RECEIVER is shown as a separate unit that can be connected to the vehicle's system via a cable (A).

FIG. 1

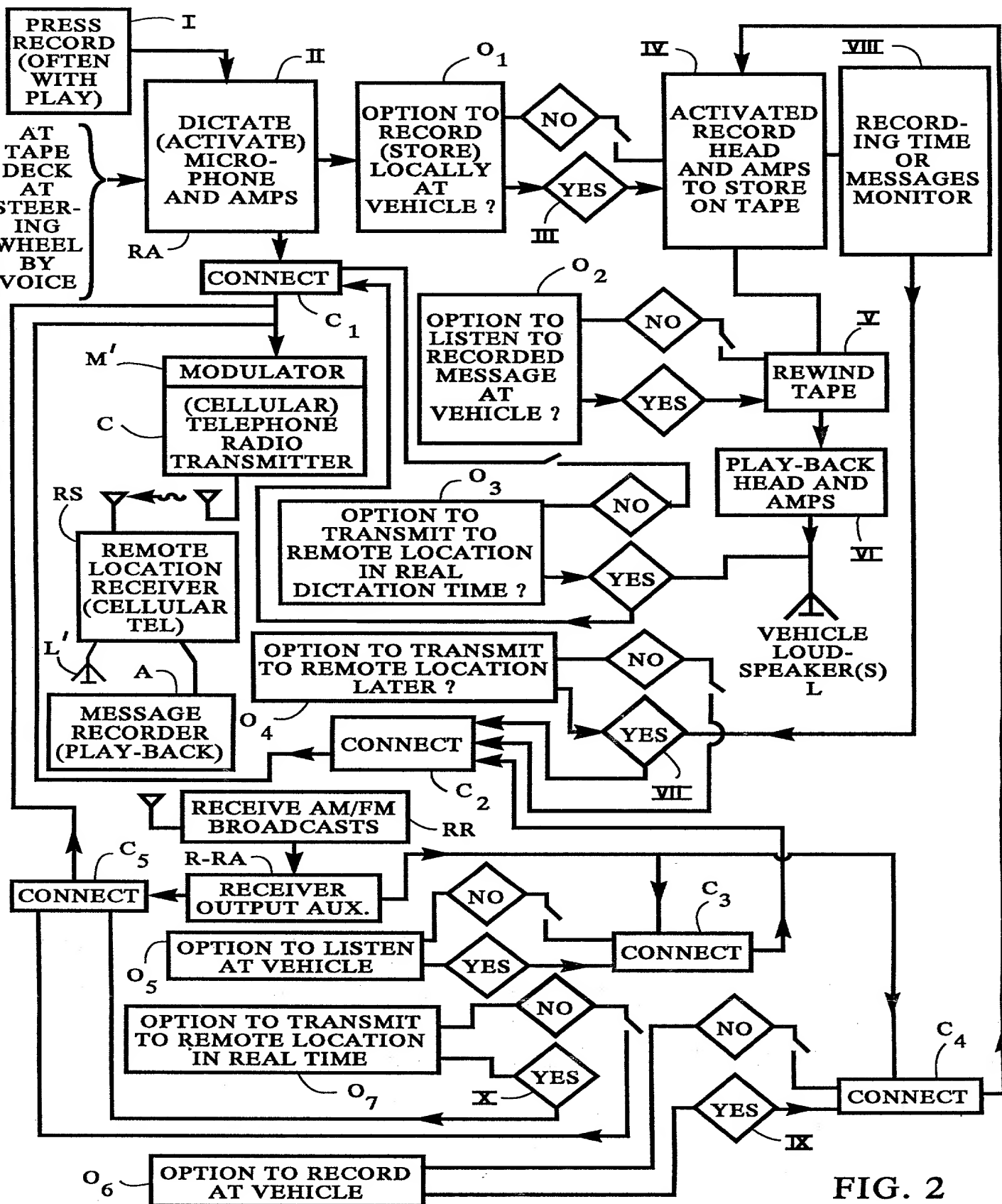


FIG. 2

DECLARATION AND POWER OF ATTORNEY

As a below-named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name.

I believe that I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled METHOD OF AND APPARATUS FOR EXPANDING FUNCTIONALITY OF VEHICLE CASSETTE TAPE-PLAYER DEPENDENT ON PERMIT DICTATION OR OTHER RECORDING AND AUTOMATIC REMOTE STATION RELAYING OF SAME the specification of which is attached hereto.

☒ was filed on _____, as Application Serial No. _____ and as amended _____.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above. I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, C.F.R. §1.56(a).

I hereby claim foreign priority benefits under Title 35, U.S.C. §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Priority Claimed

| Serial No. | Country | Filing Date | Priority Claimed | |
|------------|---------|-------------|------------------|----|
| | | | Yes | No |
| 1 | | | | |
| | | | | |
| | | | | |
| | | | | |

I hereby claim the benefit under Title 35, U.S.C. §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, U.S.C. §112, I acknowledge the duty to disclose material information as defined in Title 37, C.F.R. §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

And I hereby appoint Robert H. Rines, Reg. No. 15,932, of the firm of Rines and Rines, Reg. No. 16,118, my attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith. *(61 N. STATE ST., CONCORD, N.H. 03301; 603-225-0121)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

(1) Full name of sole or first inventor: _____

Date: SEPT. 15, 1990

Signature: _____

CAROL MARY RINES

Citizenship: U.S.A.

Residence: 13 SPAULDING ST., CONCORD, N.H. 03301

Post Office Address: SAME

(2) Full name of second joint inventor, if any: ROBERT H. RINES

Date: SEPT. 15, 1990

Signature: _____

Robert H. Rines

Citizenship: U.S.A.

Residence: 13 SPAULDING ST., CONCORD, N.H. 03301

Post Office Address: _____

(3) Full name of third joint inventor, if any: JUSTICE C. RINES

Date: SEPT. 15, 1990

Signature: _____

Justice C. Rines

Citizenship: U.S.A.

Residence: 13 SPAULDING ST., CONCORD, N.H.

Post Office Address: SAME